ORDER FOR SUPPLIES OR SERVICES

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

1. DATE OF ORDER	10/12/2005
2. CONTRACT NO. *(If any)*	200-2000-08018
3. ORDER NO.	0016
4. REQUISITION/REFERENCE NO.	000HCC12-2005-26708
5. ISSUING OFFICE *(Address correspondence to)*	Center for Disease Control and Prevention P.O. Box 18070, Cochrans Mill Road Pittsburgh, PA 15236-0070

6. SHIP TO:

a. NAME OF CONSIGNEE

b. STREET ADDRESS

c. CITY | d. STATE | e. ZIP CODE

f. SHIP VIA

7. TO:

a. NAME OF CONTRACTOR
Battelle

DUNS Number: 007901598

b. COMPANY NAME
Health & Life Sciences Division

c. STREET ADDRESS
1550 Crystal Drive, Suite 601

d. CITY	e. STATE	f. ZIP CODE
Arlington	VA	22202

8. TYPE OF ORDER

☐ a. PURCHASE
REFERENCE YOUR:
Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.

☐ b. DELIVERY
Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.

9. ACCOUNTING AND APPROPRIATION DATA
See Section B

10. REQUISITIONING OFFICE
HCC12

11. BUSINESS CLASSIFICATION *(Check appropriate box(es))*

☐ a. SMALL ☒ b. OTHER THAN SMALL ☐ c. DISADVANTAGED ☐ d. WOMEN-OWNED

12. F.O.B. POINT	14. GOVERNMENT B/L NO.	15. DELIVER TO F.O.B. POINT ON OR BEFORE *(Date)*	16. DISCOUNT TERMS
Destination		10/06/2006	Net 30 Days

13. PLACE OF
a. INSPECTION | b. ACCEPTANCE

17. SCHEDULE *(See reverse for Rejections)*

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	The purpose of this task order is to obtain support for the project entitled "Dose Reconstruction Research" in accordance with the attached statement of work and the contractor's business and technical proposals dated August 3, 2005. Signature [signature] Date 9/29/05	1	Job	Estcost Fixedfee	2,703,525 188,630	

18. SHIPPING POINT	19. GROSS SHIPPING WEIGHT	20. INVOICE NO.

17(h) TOT. *(Cont. pages)*: $2,892,155

21. MAIL INVOICE TO:

SEE BILLING INSTRUCTIONS ON REVERSE

a. NAME

b. STREET ADDRESS *(or P.O. Box)*

c. CITY | d. STATE | e. ZIP CODE

17(i) GRAND TOTAL: $2,892,155

22. UNITED STATES OF AMERICA *(Signature)* [signature]

23. NAME *(Typed)*
Larry E. Guess
TITLE: CONTRACTING/ORDERING OFFICER

SECTION B - SUPPLIES OR SERVICES AND PRICES/COSTS

ITEM	SUPPLIES / SERVICES	QTY / UNIT	UNIT PRICE	EXTENDED PRICE
0001	Technical Support for the project Dose Reconstruction Research	1 Job	$2,892,155	$2,892,155.00
	Line(s) Of Accounting:			

Cost Plus Fixed Fee Line Items. Base task.

CLIN/SLIN	ESTIMATED COST	FIXED FEE	TOTAL EST. CPFF
0001 Total	$ 2,703,525	$ 188,630	$2,892,155.00
Funded Amount	$ 934,579	$ 65,421	$ 1,000,000.00

352.232-74 Consideration-Estimated Cost and Fixed Fee (Apr. 1984)

(a) It is estimated that the total cost to the Government for full performance of this contract will be $ $2,892,155.00, of which the sum of $2,703,525 represents the estimated reimbursable costs and $188,630 represents the fixed-fee.

(b) Total funds currently available for payment and allotted to this contract are $ 1,000,000, of which $ 934,579 represents the estimated reimbursable costs and $ 65,421 represents the fixed-fee. For further provisions on funding, see the Limitation of Funds clause.

(c) It is estimated that the amount currently allotted will cover performance through 02/28/2006.

(d) The Contracting Officer may allot additional funds to the contract without the concurrence of the Contractor.

(End of clause)

Statement of Work

Title

Dose Reconstruction Research

Purpose

The National Institute for Occupational Safety and Health (NIOSH) Office of Compensation Analysis and Support (OCAS) is responsible for conducting individual dose reconstructions on employees of the Department of Energy (DOE) and of Atomic Weapons Employers (AWEs) under the Energy Employees Occupational Illness Compensation Program Act of 2000 (EEOICPA). To support NIOSH=s role under EEOICPA, OCAS requires the services of a contractor to assist in the development of site survey and dose reconstructions as outlined in EEOICPA for all sites identified for this task.

Background

In October 2000, Congress and President Clinton enacted EEOICPA, establishing a federal compensation program for employees of the DOE, its contractors and subcontractors, and Atomic Weapons Employers (AWEs). On July 31, 2001, covered employees with cancer, beryllium disease, or silicosis that may be related to work at nuclear weapons production programs of DOE and its predecessor agencies began applying to the Department of Labor (DOL) under the procedures and requirements of 20 CFR Part 30 for lump sum cash benefits of $150,000 and medical benefits. For most employees with cancer, EEOICPA and the DOL regulation require a determination by DOL that the cancer was Aat least as likely as not@ caused by the occupational radiation dose incurred by the employee. Criteria and guidelines for making this determination are established by EEOICPA. In May 2002, The Department of Health and Human Services (HHS) published 42 CFR 81 as a final rule in the Federal Register (Vol. 67, No. 85). This rule will be used to determine the probability of causation for a claimant=s cancer. To make this determination, DOL will request NIOSH to provide an estimate of the radiation dose received by the employee. Absent personal monitoring records, co-worker data, area monitoring data, or source term data will be used.

NIOSH=s dose estimates will be used by DOL to determine the probability that a particular cancer was the result of the claimant=s occupational radiation exposure while employed at a covered facility. The NIOSH Interactive Radioepidemiological Program (IREP) will be used by DOL to calculate this probability. Since the IREP program allows for the input of dose distributions, the uncertainty associated with the claimant=s estimated dose will be used to establish the probability of causation as appropriate.

In May 2002, HHS issued 42 CFR Part 82 as a final rule that describes the general methods which NIOSH will be required to use in estimating occupational radiation doses under EEOICPA (Federal Register Vol. 67 No. 85). These methods are designed to provide fair and efficient processing of a high volume of dose reconstructions. For the purposes of this task order, only work done at sites specified by NIOSH is included.

Specific sites that are included in this task are identified in Appendix A. The excluded sites represent the majority of claims while this task represents the majority of sites. There are approximately 1447 dose reconstructions (as of May 2005) to be performed from approximately 143 sites. Since no personal monitoring information exists for employees at many of these sites, dose reconstruction methods are expected to be developed in Technical Basis Documents associated with these sites. Copies of 42 CFR Parts 81 and 82 are available at the OCAS website: http://www.cdc.gov/niosh/ocas/default.html and were included as an electronic attachment to TORP 29.

Scope of Work

As directed under 42 CFR Part 82 and consistent with NIOSH technical guides, the contractor shall produce and report timely dose estimates, supporting methodology, and factual basis for each case that the contractor is assigned. The task will include the following:

Collect and assess current and historical records and information on radioactive materials used, work process changes, personnel records, and other pertinent data for the purposes of conducting dose reconstructions.

Dose Reconstruction Research (Site Survey Report)

The contractor will research the conditions, processes, practices, and incidents for each facility relevant to conducting dose reconstructions.

This task will include the following:

The contractor will review and analyze records from applicable sites useful to interpret recorded dosimetry information, to evaluate the adequacy and completeness of dosimetry information, and to substitute for unavailable or incomplete dosimetry information. NIOSH does not expect that the contractor will be responsible for the physical collection and retrieval of records at DOE and DOE contractor facilities. Plans for site visits and the research to be performed there must be approved by NIOSH. NIOSH will provide access to all records in its possession that relate to the sites and cases that the contractor is responsible for. These would include relevant products of the research done to date (e.g., Site Profiles and Technical Basis Documents (TBDs) and Technical Information Bulletins (TIBs)

As agreed upon between NIOSH and the contractor, the contractor will develop statistical procedures and assumptions based on dose reconstruction research that can be applied in multiple dose reconstructions, including but not limited to dose reconstructions for employees in specific jobs, performing specific tasks, employed in specific facilities or sites, and related to specific time periods of employment. These statistical procedures will include methods to estimate the uncertainty distributions surrounding internal and external dose reconstructions on a facility specific and time-dependent basis. NIOSH will make final determinations concerning such procedures and assumptions, which will be consistent with requirements under 42 CFR Part 82 and NIOSH technical guides.

Two examples of site survey reports were attached to TORP 29. Additional examples are available at the OCAS website http://www.cdc.gov/niosh/ocas/default.html

Production of Dose Reconstruction Estimates

The contractor shall analyze all available information relevant to dose estimation/reconstruction for each individual claim and produce and transmit to NIOSH a draft report providing dose estimates, methods, and the factual basis upon which the doses were estimated, including a narrative explanation of this information understandable by claimants with a high school education.

Using collected historical records, and individual work histories, internal and external radiation dose estimates will be calculated for each organ that the claimant presents with a primary cancer. The annual dose to each organ will be calculated from the time of first exposure at a covered facility to the date of cancer diagnosis. As appropriate, a separate dose shall be computed for each type of radiation exposure received by the individual, using the exposure types provide for in the NIOSH-IREP program. These doses will be reported as equivalent dose using the weighting factors provided in the NIOSH technical guides.

Internal dose calculations shall be performed using standard metabolic models published by the International Commission on Radiological Protection (ICRP). These calculations will be performed using a NIOSH supplied computer program entitled Integrated Module for Bioassay Analysis (IMBA). This program was specially created for NIOSH to perform internal dose calculations using the most recent physiologically based biokinetic models such as those contained in ICRP publications 56, 67 and 69. Inhalation intakes will be evaluated using the respiratory tract model contained in ICRP publication 66*.

* International Commission on Radiological Protection (ICRP). 1994. Human Respiratory Model for Radiological Protection. ICRP Publication 66, Annals of the ICRP 24(1-4). Elsevier Scientific Ltd., Oxford.

Within 30 days of award, NIOSH will provide training on the internal dose assessment software for a maximum of six (6) contractor personnel as designated by the Contractor. Within thirty (30) days after receiving training from NIOSH, the contractor shall be responsible for providing and documenting training to members of its technical team involved in conducting dose reconstructions. Throughout contract performance, the Contractor shall provide this training and certification to any new employees prior to their performing dose reconstruction work.

Estimates of missed dose, due to technical limitations in monitoring technology, will be evaluated and included in the claimant's dose reconstruction for both internal and external sources of exposure. In addition, any exposure to diagnostic x rays that were required as a condition of employment will be estimated and included in the claimant's total organ dose.

The contractor shall review with NIOSH and revise dose reconstructions, as necessary, subject to NIOSH oversight of the dose reconstruction program.

NIOSH will provide the contractor with the necessary training on all applicable software and procedures required to complete dose reconstructions.

Two examples of Dose Reconstruction Estimates were provided with TORP 29.

Technical Requirements

Methodological Requirements: The contractor shall make every effort to comply fully for each dose reconstruction with the procedures, methods, and intent specified under 42 CFR 82 and NIOSH technical

guides. A copy of 42 CFR 82 and the NIOSH technical guides are available on the OCAS website http://www.cdc.gov/niosh/ocas/default.html and were included as attachments to TORP 29.

Performance Requirements: NIOSH shall evaluate the adequacy of the contractor's performance using the following quantitative criteria:

The contractor shall meet mutually agreed upon deadlines in completing dose reconstruction research and dose reconstruction estimates.

The contractor shall use quality assurance procedures to limit to one percent annually the percentage of completed dose reconstructions that are found by NIOSH to include substantial factual or procedural errors (errors that would require revision of the dose reconstruction and reporting of new results to the claimant and DOL.)

The contractor shall meet mutually agreed upon deadlines on transactions involving the Advisory Board, Congressional, FOIA, and NIOSH designated activities

Personnel Requirements

Each dose reconstruction will be overseen and reviewed, or conducted by a Health Physicist who will be identified in the transmittal cover of each dose reconstruction report. All health physicists who review dose reconstructions will have, at a minimum, five years of relevant professional experience. An advanced degree in health physics or a related field may be substituted for two years experience. Individuals who conduct dose reconstructions will have a minimum of a Bachelor's degree in a relevant field or two years of professional experience provided that their work is reviewed by a Health Physicist with the qualifications specified above.

Conflict of Interest- any site included in task

During the performance of this task, the contractor must identify any past or present involvement of personnel in occupational radiation dosimetry program policies, practices and/or procedures at the DOE facilities covered under EEOICPA. Any involvement in these program policies, practices and/or procedures at covered facilities would be considered to constitute a conflict of interest and those personnel would be prohibited from conducting dose reconstructions for employees who worked at these facilities or authoring site survey reports.

Period of Performance

The period of performance for this task order is 12 months after award.

Technical Monitor

David Allen
Health Physicist
NIOSH, OD, OCAS
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Cincinnati, OH 45226-1998
Phone: 513-533-6832
Fax: 513-533-6817
Email: DAllen2@cdc.gov

Appendix A

Facilities INCLUDED in this Task

Site	# of Cases
Linde Ceramics Plant	140
Nuclear Materials and Equipment Corp. (NUMEC) - Apollo	92
Simonds Saw and Steel Co.	81
Westinghouse Nuclear Fuels Division	61
Du Pont Deepwater Works	51
Hooker Electrochemical	46
Electro Metallurgical	45
Granite City Steel	42
Blockson Chemical Co. (Building 55 and related activities)	37
Harshaw Chemical Co.	36
United Nuclear Corp.	32
Bridgeport Brass Co., Havens Lab	30
DOW Chemical Co. (Madison Site)	29
Ashland Oil	28
General Electric Company	28
Nuclear Materials and Equipment (NUMEC) - Parks Township	28
Bethlehem Steel	27
Bridgeport Brass Co., Adrian	27
Spencer Chemical Co., Jayhawks Works	27
Chapman Valve	22
Superior Steel Co.	22
Connecticut Aircraft Nuclear Engine Laboratory	22
Lake Ontario Ordnance Works	21
Shippingport Atomic Power Plant	20
Combustion Engineering	19
Vitro Manufacturing	17
Westinghouse Atomic Power Development Plant	16
Metallurgical Laboratory	14
Linde Air Products	14
Tonopah Test Site	13
Aliquippa Forge	12
Norton Co.	12
BWXT	12
Jessop Steel Co.	11
Nuclear Metals, Inc.	11
W. E. Pratt Manufacturing Co.	11
Heppenstall Co.	10
U.S. Steel Co., National Tube Division	10
Titanium Alloys Manufacturing	10
Dana Heavy Water Plant	9
Texas City Chemicals, Inc.	8
Project Gnome Nuclear explosion Site	8
Brush Beryllium Co. 4	8
Carborundum Company	8

Sylvania Corning Nuclear Corp - Hicksville Plant	8
Watertown Arsenal	8
University of California	7
Bliss & Laughlin Steel	6
Herring - Hall Marvin Safe Co.	6
Allegheny-Ludlum Steel	6
International Minerals and Chemical Corp.	6
Monsanto Chemical Co.	6
Tennessee Valley Authority	6
Yucca Mountain Site Characterization Project	5
Koppers Co., Inc.	5
Massachusetts Institute of Technology	5
Ventron Corporation	5
Vitro Corp. of America	5
Hallam Sodium Graphite Reactor	4
Lovelace Respiratory Research Institute	4
C. H. Schnorr	4
Elk River Reactor	4
Joslyn Manufacturing and Supply Co.	4
University of Rochester Atomic Energy Project	4
Horizons, Inc.	4
Kellex/Pierpont	4
Westinghouse Electric Corp.	4
Huntington Pilot Plant	3
Aluminum Co. of America (Alcoa) 1	3
SAM Laboratories, Columbia University	3
Separations Process Research Unit (at Knolls Lab)	3
Birdsboro Steel & Foundry	3
Heald Machine Co.	3
Piqua Organic Moderated Reactor	3
Reed Rolled Thread Co.	3
Sandia Laboratory-Salton Sea Base	3
Colonie Site (National Lead)	3
General Electric Plant	3
Vitro Corp. of America	3
Anaconda Co.	2
Baker-Perkins Co.	2
La Pointe Machine and Tool Co.	2
Environmental Measurements Laboratory	2
Seymour Specialty Wire	2
Albany Research Center	2
Naval Research Laboratory	2
Project Rio Blanco Nuclear Explosion Site	2
Armour Research Foundation	2
BONUS Reactor Plant	2
Crane Co.	2
Dow Chemical Co.	2
Kerr - McGee	2

Medart Co.	2
Puerto Rico Nuclear Center	2
St Louis Airport Storage Site (SLAPS)	2
Tocco Induction Heating Div	2
Wah Chang	2
Cincinnati Milling Machine Co.	1
Torrington Co.	1
New Brunswick Laboratory	1
Copperweld Steel	1
Landis Machine Tool Co.	1
Vulcan Tool Co.	1
Laboratory for Energy-Related Health Research	1
Middlesex Sampling Plant	1
Sacandaga Facility	1
Thomas Jefferson National Accelerator Facility	1
Uranium Mill in Durango	1
American Machine and Foundry	1
Arthur D. Little Co.	1
Edgerton Germeshausen & Grier, Inc.	1
General Electric X-Ray Division	1
Great Lakes Carbon Corp.	1
International Rare Metals Refinery, Inc.	1
Latty Avenue Properties	1
Mitts & Merrel Co.	1
National Bureau of Standards, Van Ness Street	1
New England Lime Co.	1
Purdue University	1
Revere Copper and Brass	1
Standard Oil Development Co. of NJ	1
Virginia-Carolina Chemical Corp.	1
W. R. Grace and Company	1
W. R. Grace Co., Agricultural Chemical Div.	1
Waste Isolation Pilot Plant	1
Allis-Chalmers Co.	0
Aluminum Co. of America (Alcoa) 2	0
American Chain and Cable Co.	0
B & T Metals	0
Fenwal, Inc.	0
Mathieson Chemical Co.	0
American Bearing Corp.	0
Associated Aircraft Tool and Manufacturing Co.	0
Beryllium Production Plant (Brush)	0
C. I. Hayes, Inc.	0
Carboloy Co.	0
Fenn Machinery Co.	0
Hunter Douglas Aluminum Corp.	0
International Nickel Co., Bayonne Laboratories	0
McKinney Tool and Manufacturing Co.	0

Shattuck Chemical	0
Sperry Products, Inc.	0
Star Cutter Corp.	0
Green Sludge Plant	0
Kauai Test Facility	0
Mill at Moab Utah	0
Ore Buying Station at Crooks Gap	0
Ore Buying Station at Edgemont	0
Ore Buying Station at Globe	0
Ore Buying Station at Grants	0
Ore Buying Station at Marysvale	0
Ore Buying Station at Moab	0
Ore Buying Station at Monticello	0
Ore Buying Station at Riverton	0
Ore Buying Station at Shiprock	0
Ore Buying Station at White Canyon	0
Princeton Plasma Physics Laboratory	0
Project Faultless Nuclear Explosion Site	0
Project Gasbuggy Nuclear Explosion Site	0
Project Rulison Nuclear Explosion Site	0
Project Shoal Nuclear Explosion Site	0
Uranium Mill in Monticello	0
AC Spark Plug	0
Aeroprojects, Inc.	0
Ajax Magnathermic Corp.	0
Alba Craft	0
Allied Chemical and Dye Corp.	0
AMCOT	0
American Machine and Metals, Inc.	0
American Peddinghaus Corp.	0
American Potash & Chemical	0
Armco-Rustless Iron and Steel	0
Armour Fertilizer Works	0
Baker and Williams Co.	0
Baker and Williams Warehouses	0
Baker Brothers	0
Bell Telephone Laboratories	0
Bendix Aviation (Pioneer Division)	0
Besley-Wells	0
Bloomfield Tool Co.	0
Bowen Laboratory	0
Brush Beryllium Co. 1	0
C - B Tool Products Co.	0
C. G. Sargent & Sons	0
California Research Corp.	0
Callite Tungsten Co.	0
Carnegie Institute of Technology	0
Carpenter Steel Co.	0

Chambersburg Engineering Co.	0
Chemical Construction Co.	0
Chupadera Mesa	0
Crucible Steel Co.	0
Dorr Corp.	0
Du Pont - Grasselli Research Laboratory	0
Electro Circuits, Inc.	0
ERA Tool and Engineering Co.	0
Extruded Metals Co.	0
Foote Mineral Co.	0
Gardinier, Inc.	0
Gruen Watch	0
GSA 39th Street Warehouse	0
International Register	0
Ithaca Gun Co.	0
J. T. Baker Chemical Co.	0
Kaiser Aluminum Corp.	0
Laboratory of Biomedical and Environmental Sciences	0
Laboratory of Radiobiology and Environmental Health	0
LaCrosse Boiling Water Reactor	0
Lindsay Light and Chemical Co.	0
Magnus Brass Co.	0
Maywood Chemical Works	0
Middlesex Municipal Landfill	0
Midwest Manufacturing Co.	0
Mitchell Steel Co.	0
Museum of Science and Industry	0
National Guard Armory	0
National Research Corp.	0
New York University	0
Oliver Corp.	0
Painsville Site (Diamond Magnesium Co.)	0
Penn Salt Co.	0
Philadelphia Naval Yard	0
Podbeliniac Corp.	0
Precision Extrusion Co.	0
Project Chariot Site	0
Quality Hardware and Machine Co.	0
R. Krasburg and Sons Manufacturing Co.	0
R. W. Leblond Machine Tool Co.	0
Radium Chemical Co.	0
Rare Earth/W. R. Grace	0
Roger Iron Co.	0
Sciaky Brothers, Inc.	0
Seaway Industrial Park	0
Shpack Landfill	0
Southern Research Institute	0
Staten Island Warehouse	0

Stauffer Metals, Inc.	0
Sutton, Steele and Steele Co.	0
Swenson Evaporator Co.	0
Sylvania Corning Nuclear Corp - Bayside Laboratories	0
Tech-Art, Inc.	0
Titus Metals	0
Tube Reducing Co.	0
Tyson Valley Powder Farm	0
United Lead Co.	0
University of Denver Research Institute	0
University of Florida	0
University of Michigan	0
University of Virginia	0
Utica St. Warehouse	0
Winchester Engineering and Analytical Center	0
Woburn Landfill	0
Wolff - Alport Chemical Corp.	0
Wolverine Tube Division	0
Wyckoff Drawn Steel Co.	0
Wykoff Steel Co.	0

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